

Application Number 10/583,242
Response to the Office Action dated September 18, 2008

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A step pile fabric obtained by treating with dry heat a pile fabric, the pile fabric comprising an acrylic shrinkable fiber and a non-shrinkable fiber, which wherein the acrylic shrinkable fiber comprises an acrylic copolymer comprising 0.5 to 10 wt% of a sulfonic acid group-containing monomer 60 to 99 parts by weight of copolymer (I) comprising:

35 to 98 wt% of acrylonitrile, a sulfonic acid group-containing monomer in an amount up to 5.0 wt%, and 2 to 65 wt% of at least one of other vinyl monomers, and 1 to 40 parts by weight of copolymer (II) comprising:

acrylonitrile in an amount up to 90 wt%, 2 to 40 wt% of a sulfonic acid group-containing monomer, and at least one of other vinyl monomers in an amount up to 80 wt%, wherein copolymers (I) and (II) are 100 parts by weight in total, and the acrylic shrinkable fiber is dyeable dye at 55 to 85°C, with dry heat at 110 to 150°C for 20 minutes or less,

the acrylic shrinkable fiber having a shrinkage percentage of 18 % or more calculated by the following formula (1):

$$\text{Shrinkage percentage (\%)} = 100 \times (1 - S_a/S_b) \quad (1)$$

wherein Sb represents a pile length of the a down hair component of the acrylic shrinkable fiber before the a dry heat treatment at 110 to 150°C for 20 minutes or less, and Sa represents a pile length of the down hair part (component) after the dry heat treatment.

2. (Currently Amended) The step pile fabric according to claim 1, wherein the acrylic shrinkable fiber comprises an acrylic copolymer and is dyeable with a cationic dye.

3. (Cancelled)

4. (Cancelled)

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5. (Cancelled)

6. (Currently Amended) ~~A~~ The process for producing the step pile fabric according to claim [[2]]8, comprising the steps of:

~~wherein dyeing on the acrylic shrinkable fiber comprising an acrylic copolymer comprising 0.5 to 10 wt% of a sulfonic acid group-containing monomer is dyed with a cationic dye at 55 to 85°C, blending the acrylic shrinkable fiber with a non-shrinkable fiber to produce a pile fabric; and treating the resulting pile fabric with dry heat at 110 to 150°C for 20 minutes or less to cause the acrylic shrinkable fiber to have a shrinkage percentage of 18% or more.~~

7. (Cancelled)

8. (New) A process for producing a step pile fabric, obtained by treating with dry heat a pile fabric, the pile fabric comprising acrylic shrinkable fiber and a non-shrinkable fiber, wherein the acrylic shrinkable fiber comprises an acrylic copolymer comprises 60 to 99 parts by weight of copolymer (I) comprising:

35 to 98 wt% of acrylonitrile, a sulfonic acid group-containing monomer in an amount up to 5.0 wt%, and 2 to 65 wt% of at least one of other vinyl monomers, and 1 to 40 parts by weight of copolymer (II) comprising:

acrylonitrile in an amount up to 90 wt%, 2 to 40 wt% of a sulfonic acid group-containing monomer, and at least one of other vinyl monomers in an amount up to 80 wt%, wherein copolymers (I) and (II) are 100 parts by weight in total, comprising the steps of:

dyeing the acrylic shrinkable fiber at 55 to 85°C;

blending the acrylic shrinkable fiber with a non-shrinkable fiber and forming a pile fabric; and

treating the resulting pile fabric with dry heat at 110 to 150°C for 20 minutes or less and shrinking the acrylic shrinkable fiber to have a shrinkage percentage of 18% or more by a following formula (I):

$$\text{Shrinkage percentage (\%)} = 100 \times (1 - S_a/S_b) \quad (1)$$

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wherein S_b represents a pile length of a down hair component of the acrylic shrinkable fiber before the dry heat treatment, and S_a represents a pile length of the down hair component after the dry heat treatment.